

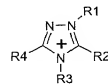
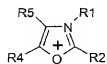
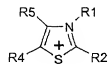
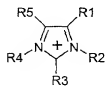
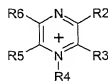
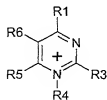
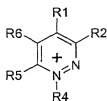
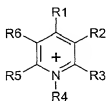
Patent claims

1. An ionic liquid of the formula



wherein:

K^+ is a cation selected from



wherein

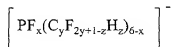
R^1 to R^6 are identical or different and are each individually

- H,
- halogen,
- an alkyl radical (C_1 to C_8), which is unsubstituted or partially or fully substituted by F, Cl, $N(C_nF_{(2n+1-x)}H_x)_2$, $O(C_nF_{(2n+1-x)}H_x)_2$, or $(C_nF_{(2n+1-x)}H_x)_3$, where $1 < n < 6$ and $0 < x \leq 13$,

- a phenyl radical which is unsubstituted or partially or fully substituted by F, Cl, $N(C_nF_{(2n+1+x)}H_x)_2$, $O(C_nF_{(2n+1-1)}H_x)$, $SO_2(C_nF_{(2n+1-x)}H_x)$ or $C_nF_{(2n+1-x)}H_x$ where $1 < n < 6$ and $0 < x \leq 13$, or

one or more pairs of adjacent R^1 to R^6 can also be an alkylene or alkenylene radical having up to 8 C atoms and which is unsubstituted or partially or fully unsubstituted by halogen, $N(C_nF_{(2n+1+x)}H_x)_2$, $O(C_nF_{(2n+1-x)}H_x)$, $SO_2(C_nF_{(2n+1-x)}H_x)$ or $C_nF_{(2n+1-x)}H_x$ where $1 < n < 6$ and $0 \leq x \leq 13$; and

A^- is an anion of the following formula



where $1 \leq x < 6$

$1 \leq y \leq 8$ and

$0 \leq z \leq 2y+1$.

2. A compound according to claim 1, wherein at least one R^1 to R^6 group is a halogen.

3. A compound according to claim 1, wherein at least one R^1 to R^6 group is an alkyl radical (C_1 to C_8), which is unsubstituted or partially or fully substituted by F, Cl, $N(C_nF_{(2n+1+x)}H_x)_2$, $O(C_nF_{(2n+1-x)}H_x)$, or $C_nF_{(2n+1-x)}H_x$, where $1 < n < 6$ and $0 < x \leq 13$.

4. A compound according to claim 1, wherein at least one R^1 to R^6 group is a phenyl radical which is unsubstituted or partially or fully substituted by F, Cl, $N(C_nF_{(2n+1+x)}H_x)_2$, $O(C_nF_{(2n+1-1)}H_x)$, $SO_2(C_nF_{(2n+1-x)}H_x)$ or $C_nF_{(2n+1-x)}H_x$ where $1 < n < 6$ and $0 < x \leq 13$.

5. A compound according to claim 1, wherein at least one adjacent pair of R^1 to R^6 is an alkylene or alkenylene radical having up to 8 C atoms and which is unsubstituted or partially or fully unsubstituted by halogen, $N(C_nF_{(2n+1+x)}H_x)_2$, $O(C_nF_{(2n+1-x)}H_x)$, $SO_2(C_nF_{(2n+1-x)}H_x)$ or $C_nF_{(2n+1-x)}H_x$ where $1 < n < 6$ and $0 \leq x \leq 13$.

6. A compound according to claim 1, wherein said compound has at least one perfluorinated alkyl group.

7. A compound according to claim 1, wherein said compound contains at least one $C_yF_{2y+1-z}H_z$ group selected from C_2F_5 and C_4F_9 .
8. An electrochemical cell comprising a cathode, an anode, a separator, and an ionic liquid of claim 1.
9. A capacitor comprising of at least a pair of electrodes, a separator, and an ionic liquid of claim 1.
10. An electrolyte composition comprising an ionic liquid of claim 1 and an aprotic solvent.
11. An electrolyte composition comprising an ionic liquid of claim 1 and a conductive salt.

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